REMARKS/ARGUMENTS

Claims 1-5 and 9 are pending in the present application. Claims 1 and 9 have been amended. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

1. Claims 1 and 9 were rejected under 35 USC §103(a) over Dechjaroen, "Performance Evaluation of Voice Over Internet Protocol," (hereinafter "Dechjaroen") in view of U.S. Patent No. 6,665,317 to Scott '317 (hereinafter "Scott '317") and further in view of Rix et al. "Non-intrusive monitoring of speech quality in voice over IP networks" (hereinafter "Rix").

Claim 1 recites a method of assessing speech quality transmitted via a packet based telecommunications network. The method comprises, in relevant part for purposes of the discussion that follows, storing a sequence of intercepted packets associated with a call, extracting a set of parameters from the sequence of intercepted packets, and generating an estimated mean opinion score in dependence upon the set of parameters. The extracting step comprises: (i) generating a jitter parameter for each packet of the sequence of stored packets; (ii) generating a long term average jitter parameter (lt_jitter) for the stored packet in dependence upon the value of the jitter parameter (jitter) for the stored packet, the value of the jitter parameter for any preceding stored packets, and a predetermined adaptation rate (P) according to the equation: lt_jitter = (lt_jitter * P) + (abs (jitter) * (1 - P)); and (iii) generating a differential jitter parameter in dependence upon the jitter parameter for the stored packet and the long term average jitter parameter.

Claim 9 recites an apparatus for assessing speech quality transmitted via a packet based telecommunications network. The apparatus comprises, in relevant part for purposes of the discussion that follows, means for storing a sequence of intercepted packets associated with a call, means for extracting a set of parameters from the sequence of intercepted packets, and means for generating an estimated mean opinion score in dependence upon the set of parameters. The means for extracting comprises: (i) means for generating a jitter parameter for each intercepted packet of the sequence

of stored intercepted packets; (ii) means for generating a long term average jitter parameter (lt_jitter) for the stored packet in dependence upon the value of the jitter parameter (jitter) for the stored intercepted packet, the value of the jitter parameter for any preceding stored intercepted packets and a predetermined adaptation rate (P) according to the equation: lt_jitter = (lt_jitter * P) + (abs(jitter) * (1 - P)); and (iii) means for generating a differential jitter parameter in dependence upon the jitter parameter for the stored intercepted packet and the long term average jitter parameter.

Although the U.S. PTO has cited new prior art, the fundamental alleged basis for the rejections of the pending claims remains the same as has previously been argues, namely, that it is known to assess speech quality using a set of parameters that includes (among others) a jitter parameter generated in dependence upon a difference between the transmission time of a stored packet and the transmission time of a preceding stored packet of the sequence; and a difference between the intercept time of the stored packet and the intercept time of the preceding stored packet. The applicant acknowledges that such is indeed known from many prior art references.

Scott '317 discloses that it is known to generate jitter statistics including jitter, jitter variation, average jitter, average jitter variation and combinations thereof for the purpose of managing a jitter buffer size. Handling jitter comes at the expense of latency, and Scott '317 addresses the problem of providing optimal buffering so that jitter is handled effectively without resorting to excessive buffering.

Accordingly, the applicant further acknowledges that Scott '317 discloses the use of jitter statistics for a purpose that *differs from* the purpose of assessing speech quality.

The U.S. PTO continues to assert, unfairly and without basis in the opinion of the applicant, that it would be obvious to generate a differential jitter parameter in dependence upon the jitter parameter for a stored packet and the long term average jitter parameter, and using this parameter to assess speech quality.

It is respectfully urged that simply because use of a particular parameter is known for other purposes does not mean that use of such a parameter would be obvious in the context of a method of assessing speech quality.

Claims 1 and 9 are amended as set forth above to clarify that the set of parameters used to generate the mean opinion score includes the generated differential jitter parameter.

The U.S. PTO asserts that Dechjaroen shows that it is known to include a parameter in a method of assessing speech quality which represents the long term average jitter according to the equation:

It_jitter = (It_jitter * P) + (abs(jitter) * (1-P))

The equation used in Dechjaroen is disclosed therein *only* in the context of adapting the buffer length in order to optimize the performance of the buffer, i.e., for an application which is similar to that disclosed in Scott '317. Nowhere does Dechjaroen (or any other of the cited references) disclose of suggest that such a long term average jitter should be used as a parameter in a method of assessing speech quality.

Furthermore, Dechjaroen does not disclose or suggest determining a difference between a jitter parameter and a long term average jitter for any purpose.

Rix is relied on for alleged disclosure of estimating a mean opinion score, in which jitter parameters are used to determine a mean opinion score. Any such disclosure in Rix would not overcome the shortcomings of Dechjaroen and Scott '317 as attempted to be applied against claim 1.

Applicants respectfully submit that finding disclosure of a particular parameter (e.g., differential jitter parameter) does not render obvious use of that parameter in another method. Here, Scott '317 discloses that it is known to generate jitter statistics including jitter variation, average jitter and average jitter variation for the purposes of managing a jitter buffer size. Similarly, Dechjaroen is also concerned with optimizing the performance of the buffer. For example, the cited equation on page 49 that the Examiner relies on is used in the context of adapting the buffer length in order to optimize performance of the buffer, which is a similar application as shown in Scott '317.

Applicants have found that the recited long term average jitter parameter and the differential jitter parameter are particularly important parameters in determining and generating a mean opinion score relating to the voice quality of a VoIP call. None of the references alone or in combination, disclose any direct relationship between these elements and a mean opinion score. Rather, for example, Scott '317 discloses that an average jitter value and a differential jitter value are used as part of calculations to adjust the size of a jitter buffer. Scott '317 does not disclose or suggest that the average jitter value and the differential jitter value can or should be used as a rating from which a mean opinion score can be determined. The other references also fail to contain any such disclosure or suggestion.

Accordingly, any combination of Dechjaroen, Scott '317 and Rix fails to disclose or suggest either the claimed method of assessing speech quality or the claimed apparatus for assessing speech quality. Applicants respectfully request that the U.S. PTO reconsider and withdraw this rejection.

2. Claims 2-5 were rejected under 35 USC §103(a) over Dechjaroen in view of Scott '317 and Rix, and further in view of U.S. Publication 2003/0018450 to Carley (hereinafter "Carley '450). Applicants respectfully traverse this rejection.

Carley '450 is relied on for alleged disclosure of composite variance analysis for network operation with packet based networks. Any such disclosure in Carley '450 would not overcome the shortcomings of Dechjaroen, Scott '317 and Rix as attempted to be applied against claim 1. Accordingly, it is respectfully requested that the U.S. PTO reconsider and withdraw this rejection.

In view of the above, claims 1-5 and 9 are allowable.

If the Examiner believes that further contact with Applicants' attorney would be advantageous toward the disposition of this case, the Examiner is herein requested to call Applicants' attorney at the phone number noted below.

The Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. 50-1446.

Respectfully submitted,

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